FEDERAL HIGHWAY ADMINISTRATION – UTAH DIVISION

PROGRAMMATIC SECTION 4(f) DETERMINATION AND APPROVAL UNDER THE NATIONWIDE PROGRAMMATIC 4(f) EVALUATION AND APPROVAL FOR FHWA PROJECTS THAT NECESSITATE THE USE OF HISTORIC BRIDGES

(JULY 5, 1983)

Project #

STP-0212(5)0E

Description/Location of Historic Property

SR 212 Bridge over Mill Creek, approximately 375 West Telegraph Street, Washington City, Utah, UDOT Structure No. OD 416

Consult the Nationwide Section 4(f) Evaluation as it relates to the following items. Complete all items. Any response with an * requires additional information prior to approval. Attach any information. This determination will be attached to the applicable NEPA document.

APPLICABILITY

1.	Will the bridge be replaced and/or rehabilitated with Federal Funds?	Yes
2.	Will the project require the "use" of a historic bridge which is on or eligible for listing on the National Register of Historic Places?	Yes
3.	Will the project impair the historic integrity of the bridge either by demolition or rehabilitation?	Yes
4.	Has the bridge been determined to be a National Historic Landmark?	No

ALTERNATIVES CONSIDERED

Consult the Nationwide Programmatic Section 4(f) Evaluation for the generic reasons that might be addressed. The evaluation of alternatives for the subject project, however, must quantify those reasons as applicable and be supported by circumstances of the project. **All of the following alternatives must be evaluated.**

1.	The "Do Nothing" alternative has been studied and it has been determined for reasons of maintenance and safety not to be feasible and prudent.	Yes
2.	The build on a "New Location" without using the old bridge alternative has been studied and it has been determined for reasons of terrain, and/or adverse social, economic or environmental effects, and/or engineering and economy, and/or preservation of the old bridge, not to be feasible and prudent.	Yes
3.	Rehabilitation of the existing bridge without affecting the historic integrity of the bridge has been studied and it has been determined for reasons of structural deficiency and/or geometrics that rehabilitation is not feasible and prudent	Yes

MEASURES TO MINIMIZE HARM

The following must include all possible planning to minimize harm.

1.	For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved to the greatest extent possible, consistent with unavoidable transportation needs, safety and load requirements.**	Yes
2.	For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be moved or demolished, the FHWA has ensured that fully adequate records are made of the bridge in accordance with the Historic American Engineering Record (HAER) or other suitable means developed through consultation.	Yes
3.	For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge, and/or, it has been determined that marketing the bridge is not feasible.***	Yes
4.	For bridges that are **adversely affected**, the FHWA, SHPO, and ACHP have reached agreement through the Section 106 process on the Measures to Minimize Harm and those measures are incorporated into the project.	Yes

NOTES:

** This criterion and the provisions of Section 4(f) apply when it has been determined by FHWA in consultation with SHPO and ACHP through the Section 106 process that the rehabilitation work will result in an "adverse effect" on the historic integrity of the structures. When through the above consultation, it is determined the rehabilitation work will result in "no adverse effect" on the historic integrity of the structure, the provisions of Section 4(f) and the above Nationwide Programmatic Section 4(f) Evaluation do <u>not</u> apply.

*** This criterion will require the advertisement and marketing of the bridge in accordance with FHWA requirements. Marketing will be addressed in the Programmatic Section 4(f) Evaluation and by appropriate provisions in the Memorandum of Agreement entered into between the State or local agency, FHWA, the SHPO and the ACHP. Refer to Mr. Leather's July 22, 1987 memorandum on the applicable requirements for preservation and marketing. Copies of the advertisement and results of the marketing efforts must be furnished to FHWA prior to replacement of the historic bridge. Marketing is <u>not</u> required when through the Section 106 consultation process between the State or local agency, FHWA, the SHPO and the ACHP, it is determined not a feasible option.

DETERMINATION AND APPROVAL

Based on the NEPA documentation/Programmatic Section 4(f) Evaluation approved by FHWA on _____ the results of the public and agency consultation and coordination as evidenced by the attachments to the Utah Department of Transportation's letter attached, the FHWA has determined that:

- The project meets the applicability criteria set forth in the Nationwide Programmatic Section 4(f) Evaluation and Approval for FHWA projects that Necessitate the Use of Historic Bridges dated July 5, 1983
- That all of the alternatives set forth in the Findings section of the above Nationwide Section 4(f) Evaluation have been fully evaluated. Based on those Findings, it is determined there is no feasible and prudent alternatives to the use of the historic bridge.
- That the project complies with the Measures to Minimize Harm Section of the above Nationwide Section 4(f) Evaluation and agreement between the FHWA, SHPO, and ACHP has been reached.

Accordingly, the FHWA approved the proposed use of the historic bridge for the construction of _____ under the above Nationwide Section 4(f) Evaluation issued on July 5, 1983.

Approved _____

FHWA Division Administrator Date

Attachment A

Documentation

Programmatic 4(f) Evaluation and Approval
SR-212/Telegraph Street Mill Creek Bridge, UDOT Structure No. OD 416
Washington City, Utah

Introduction

This evaluation is intended to document the basis for a Programmatic Section 4(f) Approval that 1) there are no feasible and prudent alternatives to the use of the SR-212/Telegraph Street Mill Creek Bridge in Washington City, Utah, which is to be demolished and replaced with Federal funds and 2) the project includes all possible planning to minimize harm resulting from the intended use. This approval is made Pursuant to Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. 303, and Section 18(a) of the Federal-Aid Highway Act of 1968 23 U.S.C. 138.

The SR-212/Telegraph Street Mill Creek Bridge addressed in this Programmatic Section 4(f) Approval is unique because it is historic, yet also part of either a Federal-aid highway system or a state or local highway system that has continued to evolve over the years. Even though the Mill Creek Bridge is eligible for inclusion on the National Register of Historic Places, it must perform as an integral part of a modern transportation system. Because the bridge cannot perform in that manner, it must be replaced in order to assure public safety while maintaining system continuity and integrity. For the purpose of this Programmatic Section 4(f) Approval, proposed improvements to SR-212/Telegraph Street will result in a "use" of the Mill Creek Bridge that will impair its historic integrity because of demolition.

Evaluation of Alternatives

Under the FHWA regulations for the Programmatic Section 4(f) Evaluation of Historic Bridges, the following alternatives avoid any use of a historic bridge:

1. Do nothing.
2. Build a new structure at a different location without affecting the historic integrity of the old bridge, as determined by procedures implementing the NHPA.
3. Rehabilitate the historic bridge without affecting the historic integrity of the structure, as determined by procedures implementing the NHPA.

The Programmatic Section 4(f) Evaluation does not apply if a reasonable alternative is identified that does not satisfy the applicable criteria. The following sections are intended to demonstrate that each of the above alternatives for the SR-212 Mill Creek Bridge was fully evaluated and that the applicable criteria are satisfied prior to approval by the FHWA Division Administrator.

1. Do Nothing

FHWA Criteria

Maintenance The Do Nothing alternative does not correct the situation that causes the bridge to be considered structurally deficient or deteriorated. These deficiencies can lead to sudden collapse and potential injury or loss of life. Normal maintenance is not considered adequate to cope with the situation.

Safety The do nothing alternative does not correct the situation that causes the bridge to be considered deficient.

Because of these deficiencies the bridge poses serious and unacceptable safety hazards to the traveling public or places intolerable restriction on transport and travel.

Description of Alternative

Under the No Build alternative, Telegraph Street between 500 West and 300 East would remain in its current condition. Standard maintenance would still occur, but there would be no additional improvements through widening or community enhancements. The discontinuity between segments of Telegraph Street from I-15 through Washington City would continue under current conditions. Service levels at most intersections would decline to LOS F by the year 2030. The sidewalk width would remain between 4 and 5 feet. The Mill Creek Bridge would not be redesigned/rebuilt to comply with current AASHTO standards and would remain "functionally obsolete."

Evaluation

Maintenance Maintenance under the No Build alternative would keep the existing structure functioning at the level to which it was originally designed. However, the bridge cannot be upgraded to accommodate the new AASHTO bridge standards.

Safety The No Build alternative does not address safety issues arising from inconsistent lane configurations, poor stopping sight distance, shoulder width inconsistencies, intersection sight distance, pedestrian accommodations, and bridge deficiencies. Pedestrian and traffic safety would likely decline as congestion increases.

2. Build on New Location Without Using the Old Bridge

FHWA Criteria

Terrain The present bridge structure has already been located at the only feasible and prudent site, i.e., a gap in the land form, the narrowest point of the river canyon, etc. To build a new bridge at another site will result in extraordinary bridge and approach engineering and construction difficulty or costs or extraordinary disruption to established traffic patterns.

Adverse Social, Economic, or Environmental Effects Building a new bridge away from the present site would result in social, economic, or environmental impact of extraordinary magnitude. Such impacts as extensive severing of productive farmlands, displacement of a significant number of families or businesses, serious disruption of established travel patterns, and access and damage to wetlands may individually or cumulatively weigh heavily against relocation to a new site.

Engineering and Economy Where difficulty associated with the new location is less extreme than those encountered above, a new site would not be feasible and prudent where cost and engineering difficulties reach extraordinary magnitude. Factors supporting this conclusion include significantly increased roadway and structure costs, serious foundation problems, or extreme difficulty in reaching the new site with construction equipment. Additional design and safety factors to be considered include an ability to achieve minimum design standards or to meet requirements of various permitting agencies such as those involved with navigation, pollution, and the environment.

Preservation of Old Bridge It is not feasible and prudent to preserve the existing bridge, even if a new bridge were to be built at a new location. This could occur when the historic bridge is beyond rehabilitation for a transportation or alternative use, when no responsible party can be located to maintain and preserve the bridge, or when a permitting authority, such as the Coast Guard requires removal or demolition of the old bridge.

Description of Alternatives

Three alternatives were evaluated that would preserve the existing bridge. The 100 North alternative and 200 South alternative would require construction of a new bridge across Mill Creek while maintaining the existing bridge for alternate uses. The third alternative would shift the alignment of Telegraph Street to the south in order to preserve the existing bridge for alternate uses.

100 North Alternative This alternative would include improvements to the existing roadway to accommodate current and future traffic levels, construction of a new or improved roadway from 500 West to 300 East, construction of new roadway from 500 West to Mill Creek, and construction of a new bridge over Mill Creek. 100 North is not currently a through street. Because City Hall currently occupies the block between Main Street and 100 East, the building would need to be relocated in order to complete the improvements through this area. This alternative would require additional roadway improvements along 500 West and 300 East in order to divert traffic to and from Telegraph Street. The existing bridge would be maintained for alternate uses.

200 South Alternative This alternative would include improvements to 200 South from 500 West to 300 East and a new bridge over Mill Creek. 200 South is currently a through street from 500 West to 300 East. There is an existing culvert crossing of Mill Creek, which would need to be upgraded or replaced to accommodate current and future traffic levels. The roadway would also need to be widened from 500 West to 300 East in order to accommodate current and future traffic levels. This alternative would require additional roadway improvements along 500 West and 300 East to divert traffic to and from the existing Telegraph Street alignment outside of this project area. The existing bridge would be maintained for alternate uses.

South Realignment Alternative This alternative would shift the alignment of Telegraph Street, and the new Mill Creek Bridge, to the south in order to preserve the existing bridge for pedestrian or other alternative uses. To achieve this, the horizontal curve radius of the improved Telegraph Street as it crosses Mill Creek would need to be increased from 3,725 feet to 6,200 feet. The increased radius, in turn, would shift the location of tie-in points to the existing alignment further away at both ends of the new horizontal curve (520 feet further west and 750 feet further East). The length of the new Mill Creek Bridge would be 140 feet. The typical roadway cross-section would be the same as Alternative Three-Narrow, the preferred alternative.

Evaluation

Terrain

100 North Alternative The 100 North alternative would require the construction of a 150’ bridge to span Mill Creek. The terrain outside of the Mill Creek area is sufficient to allow the required roadway improvements.

200 South Alternative The 200 South alternative would require the construction of a 180' bridge to span Mill Creek. The current crossing is a box culvert. Therefore, a bridge would be required to separate the Mill Creek Trail traffic from the increased 200 south vehicle traffic. The terrain outside of the Mill Creek area is sufficient to allow the required roadway improvements.

South Realignment The South Realignment alternative would require construction of a 140-foot bridge to span Mill Creek. The terrain on both sides of the Mill Creek corridor is sufficient to allow the required roadway improvements.

Adverse Social, Economic, or Environmental Effects

100 North Alternative The 100 North alternative improvements would occur in older neighborhoods that contain historic residences that would likely be impacted by construction. Some residences would likely require complete acquisition or relocation in order to complete the project. A mobile home park located on the west side of Mill Creek would likely be adversely affected by required relocation of some units.

Telegraph Street is a well established travel route through Washington City for members of the community and others outside of the community, including tourists. Improvements to 100 North would divert traffic from Telegraph Street, resulting in potentially adverse impacts to businesses between 500 West and 300 East.

Mill Creek supports wetlands along most of its length. The area in which 100 North would cross Mill Creek contains wetlands that would be impacted by construction of a new bridge. This could result in the permanent loss of some wetlands and habitat for threatened and endangered species.

200 North Alternative Like the 100 North alternative, improvements to 200 South would occur in older neighborhoods that contain historic residences that would likely be impacted by construction. Some residences would likely require complete acquisition or relocation in order to complete the project.

A new or upgraded crossing of Mill Creek could cause adverse environmental impacts to the wetlands along Mill Creek. The wetlands would likely be permanently damaged in this area from the construction of a new bridge or the widening of the existing culvert. The damage to the wetland could have an adverse impact to threatened and endangered species that may use the wetland habitat in this area.

Telegraph Street is a well established travel route through Washington City for members of the community and others outside of the community, including tourists. Improvements to 200 South would divert traffic from Telegraph Street, resulting in potentially adverse impacts to businesses between 500 West and 300 East.

South Realignment Alternative When compared to Alternative One, the South Realignment alternative would have the following additional potential adverse impacts:

- Relocation of the convenient store/gas station located at 471 West Telegraph Street.
- Reduction in parking stalls for the nursery/old cotton mill located at 385 West Telegraph Street.
- An additional 0.02 acres of Mill Creek wetlands permanently removed.
- An additional 55 feet of Nisson Park adjacent to Telegraph Street required for ROW acquisition.
- Relocation of the professional office building located at 195 West Telegraph Street.

- Relocation of two duplex residences located at 150 West Telegraph Street.
- An additional 5 feet of the Historic Relief Society Hall property (97 West Telegraph Street) required for ROW acquisition.
- An additional 15 feet of Washington History Museum property (11 East Telegraph Street) required for ROW acquisition. Some existing statues would require relocation.

Potential benefits of the South Realignment alternative include preserving the existing bridge for alternate uses, and a reduction of 15 feet in required ROW at the Post Office (25 West Telegraph Street).

Engineering and Economy

100 North Alternative The costs associated with constructing a new bridge over Mill Creek at 100 North would be similar to replacing the bridge at its current location. However, the costs associated with connecting the bridge to the existing Telegraph Street beyond the project limits could be significant. In addition, the improvements required along 100 North within the project limits could require additional costs when compared to the proposed improvements along Telegraph Street.

200 South Alternative The costs associated with constructing a new bridge over Mill Creek at 200 South would be similar to replacing the bridge at its current location. However, the costs associated with connecting the bridge to the existing Telegraph Street beyond the project limits could be significant. In addition, the improvements required along 200 South within the project limits could require additional costs when compared to the proposed improvements along Telegraph Street.

South Realignment Alternative The potential impacts identified above under "Adverse Social, Economic, or Environmental Effects" would also contribute to significantly higher costs for engineering, roadway and structures, and ROW acquisition when compared to the proposed improvements in Alternative Three - Narrow. Accordingly, under this criterion, the South Realignment Alternative would not be feasible and prudent.

Preservation of Old Bridge

100 North Alternative Based on applicable FHWA criteria, the Mill Creek Bridge is beyond rehabilitation for transportation uses, even if a new bridge were to be built at a 100 North crossing. Although the existing bridge could be maintained for alternate uses, the additional impacts and potential costs identified above render preservation for transportation uses neither feasible or prudent.

200 North Alternative Based on applicable FHWA criteria, the Mill Creek Bridge is beyond rehabilitation for transportation uses, even if a new bridge were to be built at a 200 South crossing. Although the existing bridge could be maintained for alternate uses, the additional impacts and potential costs identified above result in the conclusion that this alternative is not feasible or prudent.

South Realignment Alternative It is not feasible and prudent to preserve the existing bridge, even if a new bridge were to be built south of the existing bridge. Based on applicable FHWA criteria, the Mill Creek Bridge is beyond rehabilitation for transportation uses. Although the existing bridge could be maintained for alternate uses, the additional impacts and potential costs identified above result in the conclusion that this alternative is not feasible or prudent.

3. Rehabilitation Without Affecting the Historic Integrity of the Bridge

FHWA Criteria

Studies have been conducted of rehabilitation measures, but, for one or more of the following reasons, this alternative is not feasible and prudent:

Structural Deficiency The bridge is so structurally deficient that it cannot be rehabilitated to meet minimum acceptable load requirements without affecting the historic integrity of the bridge.

Geometric Deficiency The bridge is seriously deficient geometrically and cannot be widened to meet the minimum required capacity of the highway system on which it is located without affecting the historic integrity of the bridge. Flexibility in the application of the American Association of State Highway and Transportation Officials geometric standards should be exercised as permitted in 23 CFR Part 625 during the analysis of this alternative.

Description of Alternative

Rehabilitation of the existing bridge would include repairing any components of the bridge that are failing or dilapidated. This may include repairs to the deck, parapet, girders, abutments, curb, joints, piers or pier caps. The historic look of the bridge would not be altered.

Evaluation

Structural Deficiency

According to the Project Concept Report, The Mill Creek bridge is functionally obsolete because of its narrow width. It also has substandard railings, and additional unknown deck conditions. It also doesn't meet current AASHTO bridge loading requirements.

Geometric Deficiency

Current traffic levels make the 30-foot width functionally obsolete. In addition, the bridge doesn't provide proper sidewalk width. Based on the structure type and historical presence a widening operation would not be appropriate. Rehabilitating the existing bridge is not feasible or prudent because it will require more modifications than can be accommodated to meet the Purpose and Need of this project, and those modifications would compromise the historic integrity of the bridge.

Measures to Minimize Harm

FHWA Criteria

The Programmatic Section 4(f) Evaluation and Approval may be used only for projects where the FHWA Division Administrator ensures that the proposed action includes all possible planning to minimize harm. This has occurred when:

1. *Preserve Historic Integrity in Rehabilitation* For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved, to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements;

2. *Adequate Records Prior to Demolition* For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be moved or demolished, the FHWA ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge;

3. *Availability for Alternative Use* For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge; and

4. *Agency Agreement on Measures to Minimize Harm* For bridges that are adversely affected, agreement among the SHPO, ACHP, and FHWA is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project. This programmatic Section 4(f) evaluation does not apply to projects where such an agreement cannot be reached.

Evaluation

1. *Preserve Historic Integrity in Rehabilitation* As discussed in number 3 above, rehabilitation of the Mill Creek Bridge is not feasible or prudent.

2. *Adequate Records Prior to Demolition* Provisions for documentation in accordance with the Historic American Engineering Record (HAER), or other suitable means, will be included in the interagency Memorandum of Agreement (MOA) pursuant to item 4.

3. *Availability for Alternative Use* The MOA (item 4) will include a provision to document an agency effort to make the bridge available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge.

4. *Agency Agreement on Measures to Minimize Harm* The FHWA, SHPO, and ACHP will reach agreement through the Section 106 process on Measures to Minimize Harm. The measures will be documented in a Memorandum of Agreement (MOA) and incorporated in the project as mitigation measures in the Final EA.